Catalogue of American Amphibians and Reptiles.

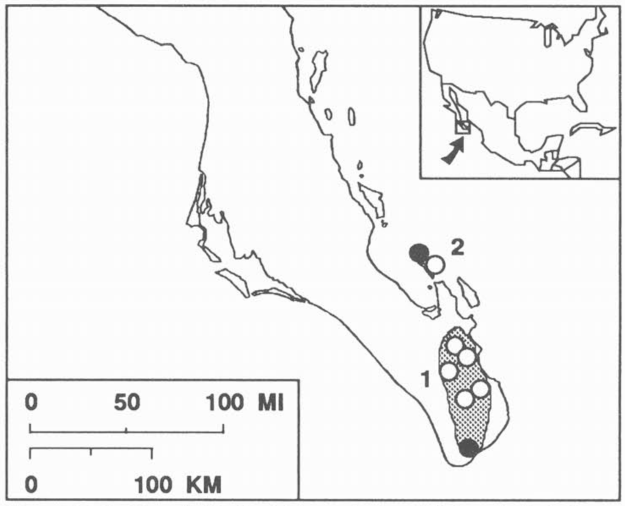
Grismer, L. Lee. 1990. *Masticophis aurigulus.*

Masticophis aurigulus (Cope)
Baja California Striped Whipsnake

Drymobius aurigulus Cope, 1861:301. Type-locality, "Cape San Lucas, Lower California," México. Holotype, National Museum of Natural History (USNM) 5793, collected by John Xantus, date of collection unkown (examined by author).
Bascanium aurigulum: Cope, 1875:40.
Coluber flagelliformis aurigulus: Garman, "1883" (1884):44.
Bascanium laterale aurigulum: Cope, 1891:629.
Bascanium aurigulum: VanDenburgh, 1895:149.
Zamenis aurigulus: Cope, 1896:1012.
Coluber aurigulus: Stejneger and Barbour, 1917:78.
Masticophis aurigulus: Ortenburger, 1923:2.
Coluber aurigularis: Savage, 1960:196 (incorrect subsequent spelling)

• **Content.** Two subspecies are recognized: *aurigulus* and *barbouri*.

• **Definition.** *Masticophis aurigulus* is moderately long and thin, attaining at least 1103 mm SVL. The head is large, moderately distinct from neck. The eyes are large, with a prominent supraorbital ridge; the tail is long, up to 34% of SVL. The rostral is triangular, concave ventrally followed in order dorsally and posteriorly by a pair of large internasals, paired prefrontals, single frontal, and 2 large triangularly-shaped parietals; the frontal is bordered laterally by large supraciliary; the supraciliary is bordered anterolaterally by an upper preocular which contacts the prefrontal posterolaterally; a single prenasal between the rostral and the external nares is bordered dorsally by the internasal and ventrally by the 1st and sometimes the 2nd supralabial; a single postnasal is bordered dorsally by the internasal and prefrontal, and ventrally by the 1st and 2nd supralabial; the postnasal is followed posteriorly in order by a loreal and dorsal preocular; the loreal is much longer than high, bordered dorsally by the prefrontal and ventrally by the 2nd and 3rd supralabials. The species has 2 preoculars, the dorsal one larger with a dorsal portion forming part of the supraorbital ridge; the ventral preocular is very small; 6-9 supralabials are present, increasing in size posteriorly. The species has 2-3 postoculars; when 2 are present, they are equal in size; 6-8 temporals are present between the parietal and supralabials posterior to the postoculars, the temporals increase in size posteriorly. The mental is triangular and relatively small. The 1st pair of infralabials meet on the midline and border the mental posteriorly, followed posteriorly by 2 pairs of elongate chin-shields, the anterior pair equal to or shorter in length than the posterior pair; 9-11 infralabials increase in size posteriorly to the 4th, 5th, or 6th infralabial and then decrease in size posteriorly. The dorsal scales are imbricate, much longer than wide anteriorly, grading into scales of equal length and width at the vent. The posterior tip of each scale has 1-2 apical pits. Scale rows number 17-19 one head length behind the posterior margin of the parietal scales, 16-17 rows at midbody, and 13 rows at the vent. Ventrals number 192-214. The anal plate is divided; subcaudals number 120-165 and are paired.



Map. Distribution of *Masticophis aurigulus*. Solid symbols indicate type-localites, open circles mark other known records.

The ground color is dark green to brown, extending ventrally around the body to the lateral portions of the ventrals; the iris is coppery orange; the top of the head is immaculate to slightly mottled in larger specimens; a continuous cream-colored rostral stripe begins at the anterior margin of one eye and terminates at the anterior margin of the other eye; the lower portions of the supralabials are immaculate and cream-colored, with their upper portions dark-colored; the union of the two colors posterior to the eye forms an even line; the cream coloration of the supralabials extends dorsally to cover the lower postocular immediately posterior to the eye; a short dorsal postorbital stripe is present on the upper portion of the upper postocular and the anterolateral corner of the parietal; a prominent to faint spot is present on the posterior temporals; the venter is immaculate, orange to salmon colored anteriorly, fading posteriorly to cream-yellow below the body and to faint pink below the tail; a pair of primary dorsolateral stripes is present on scale rows 3-4 beginning just behind the head and fading posteriorly to termination two-thirds of the way to the tail base or continuing to the vent; the anterior portion of the stripes is expanded at regular intervals of 2-7 scales, and faint crossbanding is present between the expanded areas; faint secondary stripes are present on the lateral portion of the ventral scales and the ventral portion of scale row one and dorsal portion of row one and ventral portion of row two; the secondary stripes fade quickly one-third to one-half the distance to the vent.

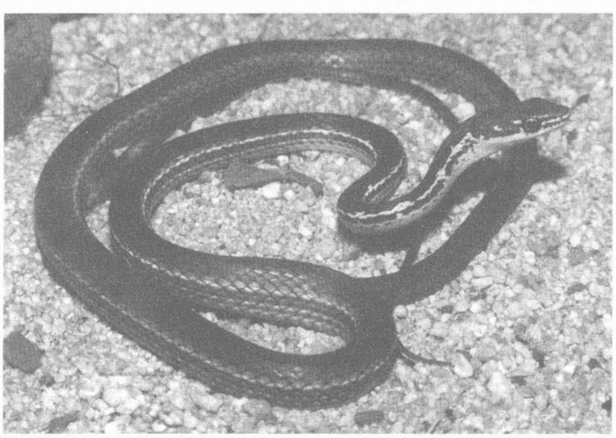


Figure 1. *Masticophis aurigulus aurigulus* from Boca de la Sierra, BCS, México (SDSNH 66307). From Grismer, 1990.

• **Descriptions.** The original description (Cope, 1861) is short, incomplete, and based on a mangled specimen consisting of only the anterior one-half of the body. Early subsequent descriptions (Ortenburger, 1928; Van Denburgh, 1922: Van Denburgh and Slevin, 1921) are also of limited value because they are based on single specimens. Grismer (1990) published more complete descriptions based on several specimens.

• **Illustrations.** Stebbins (1985) presented a black and white drawing of the head of *Masticophis aurigulus aurigulus*. Grismer (1990) included a black and white photograph of a live *M. a. aurigulus* and an illustration of the lateral view of the head of *M. a. barbouri*.

• **Distribution.** *Masticophis aurigulus* is restricted to the upper elevations of the Sierra de la Laguna in the Cape Region of Baja California Sur (BCS), México and its eastern foothills. It is also known from the western sides of islas Espíritu Santo and Partida Sur, BCS.

• **Fossil record.** None.

• **Pertinent Literature.** Cope (1861), Van Denburgh and Slevin (1921), Van Denburgh (1922), Ortenburger (1928), and Grismer (1990) gave descriptive treatments. Ortenburger (1928),

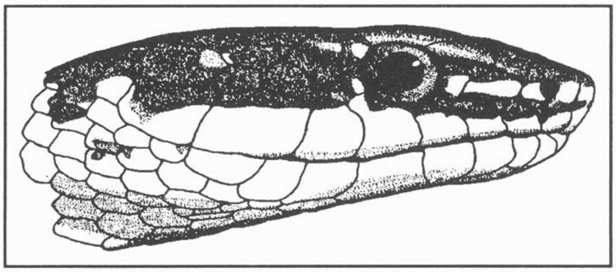


Figure 2. Lateral view of head of *Masticophis aurigulus barbouri* (MVZ 161424). From Grismer (1990).

Murphy (1983), Jennings (1983), and Grismer (1990) discussed relationships. Alvarez, et al. (1988) and Grismer (1990) reported on ecology and distribution. Murphy (1983), Welsh (1988), and Grismer (1990) discussed biogeography.

• **Remarks.** Previous authors had considered *Masticophis aurigulus barbouri* to be most closely related to *M. lateralis* (Jennings, 1983; Ortenburger, 1928), and some even considered them conspecific (Soulé and Sloan, 1966). These decisions were based on the presence of dorsolateral stripes that run the entire length of the body in *M. a. barbouri*, whereas in *M. a. aurigulus* vivid dorsolateral striping occurs only anteriorly. Grismer (1990) pointed out that complete dorsolateral striping is primitive for the *taeniatus* group (*sensu* Ortenburger, 1928) and, as such, uninformative in constructing a phylogeny. Other derived character states (Grismer, 1990) indicate that *M. a. aurigulus* and *M. a. barbouri* are sister taxa.

• **Etymology.** The name *aurigulus* is likely derived from the Latin adjective *auriger*, meaning gold-bearing, and the suffix *-ulus*, denoting a tendency and pertains to the goldish coloration of the ventral surfaces and stripes. The name *barbouri* is a patronym honoring Thomas H. Barbour.

• **Comment.** Grismer (1990) proposed that the *Masticophis lateralis* complex had a vicariant origin in Baja California and that the differentiation between *M. aurigulus* and *M. lateralis* was the result of the intermittent separation of the Cape Region from more northerly peninsular areas.

This is the least understood species of snake in Baja California. Many data are needed concerning its ecology and natural history.

1. *Masticophis aurigulus aurigulus* (Cope) Cape Striped Whipsnake

Drymobius aurigulus Cope, 1861:301. See species synonymy.
Bascanium aurigulum: Cope, 1875:40.
Coluber flagelliformis aurigulus: Garman, 1883:44.
Bascanium laterale aurigulum: Cope, 1891:629.
Bascanion aurigulum: Van Denburgh, 1895:149.
Zamenis aurigulus: Cope, 1896:1012.
Coluber aurigulus: Stejneger and Barbour, 1917:78.
Masticophis aurigulus: Ortenburger, 1923:2.
Coluber aurigularis: Savage, 1960:196
Masticophis aurigulus aurigulus: Grismer, 1990:66.

• **Definition.** A moderately long and thin subspecies attaining at least 1103 mm SVL; 17-19 dorsal scale rows one head length behind posterior margin of parietals, 17 rows at midbody, 13 rows at vent; ventrals 196-214 ($\bar{x}$ =204.1); subcaudals 120-165 ($\bar{x}$ =138.0); ground color dark brown to olive drab, primary stripes yellowish, on 3rd and 4th dorsal scale rows, continuing one-third of way to vent, and expanded in neck region at intervals of 2-7 scale rows; primary stripes not bordered in black and indistinct posteriorly.

2. *Masticophis aurigulus barbouri* (Van Denburgh and Slevin) Isla Espíritu Santo Striped Whipsnake

Coluber barbouri Van Denburgh and Slevin, 1921:98. Type locality, "Isla Partida, Espiritu Santo Island, Lower California, Mexico". Holotype, California Academy of Sciences (CAS) 49157, collected by Joseph R. Slevin, 30 May 1921 (examined by author).
Masticophis barbouri: Ortenburger, 1923:2.
Masticophis lateralis barbouri: Soulé and Sloan, 1966:143.
Masticophis aurigulus barbouri: Grismer, 1990:66.

• **Definition.** A moderately long and thin subspecies attaining at least 955 mm SVL; 18-19 dorsal scale rows one head length behind posterior margin of parietals, 16-17 rows at midbody, 13 rows at vent; ventrals 192-207 ($\bar{x}$ =198.0); subcaudals 120-165 ($\bar{x}$ =141.6); ground color olive drab to faded green; primary stripes yellowish, occuring on third and fourth dorsal scale rows, continuous to vent, and expanded in neck region at intervals of 2-3 scale rows; primary stripes bordered in black and distinct posteriorly.

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